

AMENDMENTS TO THE CLAIMS:

If entered, this listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1 - 19. (Canceled)

20. (Currently Amended) A method to pattern a photoresist layer in the manufacture of an integrated circuit device wherein said integrated circuit device comprises a plurality of fields, said method comprising:

5        depositing a photoresist layer overlying a wafer;  
      loading a first mask and a second mask in a mask stage of an exposure apparatus wherein said mask stage maintains a fixed relative position between said first mask and said second mask;

10        aligning said first mask and said second mask to said wafer;

      indexing said wafer ~~to~~ such that said first mask overlies a starting said field; ~~to set a current field;~~

~~thereafter scanning said first mask to expose said~~  
15 ~~current field;~~

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~~thereafter stepping said wafer to a next field  
unexposed by said first mask to set a new said current  
field;~~

~~thereafter repeating said scanning and stepping until  
20 every said field on said semiconductor substrate is exposed  
with said first mask;~~

thereafter performing a first exposure pass on said  
wafer by repeatedly performing the steps of:

scanning said field using said first mask; and  
25 stepping said wafer such that said first mask  
overlies a next said field yet unexposed by said first  
mask;

until all said fields in said wafer have been exposed by  
said first mask;

30 ~~thereafter returning~~ indexing ~~said wafer to~~ such that  
said second mask overlies ~~said starting field; to set said~~  
~~current field;~~

~~thereafter scanning said second mask to expose said  
current field;~~

35 ~~thereafter stepping said wafer to a next field  
unexposed by said second mask to set a new said current  
field;~~

~~thereafter repeating said scanning and stepping until  
every said field on said semiconductor substrate is exposed~~

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40 ~~with said second mask to thereby superimpose the patterns~~  
~~of said first mask and said second mask in every said~~  
~~field; and~~

thereafter performing a second exposure pass on said  
wafer by repeatedly performing the steps of:

45 scanning said field using said second mask; and  
stepping said wafer such that said second mask  
overlies a next said field yet unexposed by said  
second mask;

until all said fields in said wafer have been exposed by  
50 said second mask; and

developing said photoresist layer to thereby complete  
said patterning in the manufacture of said integrated  
circuit device.

21. (Original) The method according to Claim 20 wherein  
said fixed relative position between said first mask and  
said second mask comprises adjacent, coplanar, and  
consistent with direction of said stepping through.

22. (Original) The method according to Claim 20 wherein  
said fixed relative position between said first mask and  
said second mask comprises adjacent, coplanar, and  
perpendicular to direction of said stepping through.

23. (Original) The method according to Claim 20 wherein first mask comprises a phase-shifting mask and wherein said second mask comprises a binary intensity mask.

24. (Currently Amended) A method to pattern a photoresist layer in the manufacture of an integrated circuit device wherein said integrated circuit device comprises a plurality of fields, said method comprising:

5        depositing a photoresist layer overlying a wafer;  
      loading a first mask and a second mask in a mask stage of an optical lithographic, stepper wherein said mask stage maintains a fixed relative position between said first mask and said second mask;  
10        aligning said first mask and said second mask mask to said wafer;  
      indexing said wafer ~~to~~ such that said first mask overlies a starting field; ~~to set a current field;~~  
      ~~thereafter scanning said first mask to expose said~~  
15 ~~current field;~~  
      ~~thereafter scanning said second mask to expose an adjacent field;~~  
      ~~thereafter stepping said wafer to a next field unexposed by said first mask to set a new said current~~

20 ~~field; and~~

~~thereafter repeating said scanning and stepping until  
every said field on said semiconductor substrate is  
exposed;~~

25 thereafter performing a first exposure pass on said  
wafer by repeatedly performing the steps of:

scanning said field using said first mask;

scanning an adjacent field using said second  
mask; and

30 stepping said wafer such that said first mask  
overlies a next said field yet unexposed by said first  
or second masks;

until all said fields in said wafer have been exposed by  
either said first mask or said second mask;

35 ~~thereafter returning~~ indexing ~~said wafer to~~ said wafer to ~~such that~~  
said first mask overlies ~~said starting field; to set said~~  
~~current field;~~

~~thereafter stepping said wafer to a next field  
unexposed by said second mask to set a new said current  
field;~~

40 ~~thereafter scanning said second mask;~~

~~thereafter stepping said wafer to a next field  
unexposed by said first mask to set a new said current  
field;~~

~~thereafter scanning said first mask to expose said~~  
45 ~~current field;~~

~~thereafter repeating said scanning and stepping until~~  
~~every said field on said semiconductor substrate is exposed~~  
~~to thereby superimpose the patterns of said first mask and~~  
~~said second mask in every said field; and~~

50 thereafter performing a second exposure pass on said  
wafer by repeatedly performing the steps of:

stepping said wafer such that said second mask  
overlies a next said field yet unexposed by said  
second mask;

55 scanning said field using said second mask;  
stepping said wafer such that said first mask  
overlies a next said field yet unexposed by said first  
mask; and

scanning said field using said first mask;

60 until all said fields in said wafer have been exposed by  
said first mask and by said second mask; and

developing said photoresist layer to thereby complete  
said patterning in the manufacture of said integrated  
circuit device.

25. (Original) The method according to Claim 24 wherein  
said fixed relative position between said first mask and

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said second mask comprises adjacent, coplanar, and consistent with direction of said stepping through.

26. (Original) The method according to Claim 24 wherein first mask comprises a phase-shifting mask and wherein said second mask comprises a binary intensity mask.

27. (Original) The method according to Claim 24 wherein any of said fields at the beginning and the end of rows of said fields is only exposed through a single said mask.